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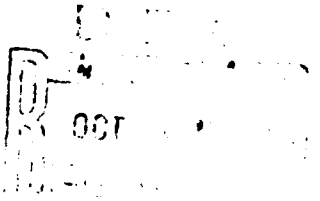

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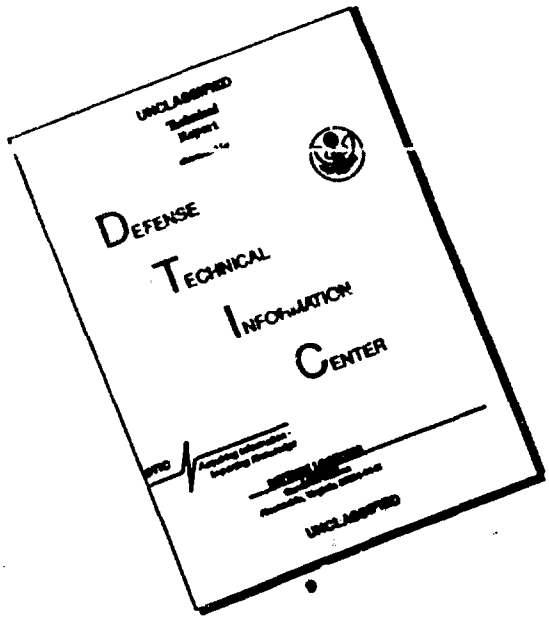

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THE ARMYWORM IN NORTH VIETNAM

[Following is the translation of an article by A. Kosmachevskiy, Professor at the Krasnodar Educational Institute, published in the Russian-language periodical Zashchita Rasteniy ot Vrediteley i Bolezney (Protection of Plants from Pests and Disease), No. 8, 1965, page 52. Translation performed by Sp/7 Charles T. Ostertag, Jr.]

In 1961-1962 in the Democratic Republic of Vietnam we had occassion to observe the serious damage to maize by armyworm caterpillars (identified by Ye. S. Milyanovskiy). Several dozen of them were settled on one plant. They gnawed the unbudded leaves and vegetative cones, causing the inhibition of growth and even the dying of the maize. Observations on the development of the pest were carried out under laboratory conditions.

The caterpillars were kept individually in large test tubes and daily they were given fresh corn leaves. Incidentally, when they were fed orache, and not maize it took them 2-4 days longer to develop. The weight of the cocoons was correspondingly 210-230 and 270-390 mg. The temperature during the experiment fluctuated between 19 and 26°, but the nourishment and development of the caterpillars takes place when it is above 10°.

In the environs of Hanoi the sum of the effective temperatures (above 10°) for a year is around 4900°, therefore 7-8 generations can develop here. The butterflies are in need of additional nourishment. They fly at twilight and drink the nectar of flowering weeds and sap of damaged sugar cane. In the province of Shon-Tay (1962) the flight of the first generation took place in January, the 2nd (generation) or second step in development, in the end of March-April. The butterflies oviposition the leaves of maize and other plants, and also on dry vegetative scraps. Having finished feeding, the caterpillars pupate in the soil. Therefore, for combatting them, mellow the soil between the rows during the period of pupation, and in addition dust the maize with 5.5% DDT (25 kg/hectare) before the hatching of the caterpillars and destroy weeds during the period of egg laying.

Development of the Armyworm

Caterpillar					
Age	Width of head (mm)	Length of body (mm)	Duration of development (days)	Average temperature (°C)	Sum of effective temperatures (°C)
1	0.3	2	3	23.0	39
2	0.5	4	3	22.7	39
3	0.8	6	2	23.5	27
4	1.3	12	2	23.5	27
5	1.8	16	3	23.3	40
6	2.7	22	4	22.0	48
7	3.6	30	9	20.5	94
Total	-	-	26	-	313
Pupa	-	-	14	21.4	159
Butterfly (maturation)	-	-	6	22.0	72
Eggs	-	-	6	21.0	66
Entire cycle of development . . .	-	-	52	-	610